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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-16. (Canceled)

17.   (New) In a disk drive comprising a micro-controller, a micro-controller cache system in communication with the micro-controller and having a cache memory, a remote memory, and a buffer manager in communication with the micro-controller cache system and the remote memory, a method of providing data requested by the micro-controller comprising:

sending a request for data from the micro-controller to the micro-controller cache system;

determining whether the data request corresponds to data cached in the cache memory;

determining whether the data request corresponds to an instruction code or non-instruction data; and

if the data request corresponds to an instruction code that is not cached in the cache memory:

fetching the instruction code from the remote memory via the buffer manager,

filling the cache memory with the instruction code, and

providing the cached instruction code to the micro-controller; and

if the data request corresponds to non-instruction data that is not cached in the cache memory:

fetching the non-instruction data from the remote memory. via the buffer manager, and

sending the non-instruction data uncached from the buffer manager to the micro-controller via the micro-controller cache system.

18.   (New) The method of claim 17, wherein determining whether the data request corresponds to an instruction code or non-instruction data is based on a signal received from the micro-controller.

19.   (New) The method of claim 17, wherein fetching further comprises:

sending a micro-controller cache system request from the micro-controller cache system to the buffer manager;

accessing the remote memory from the buffer manager; and

retrieving data corresponding to the micro-controller cache system request from the remote memory.

20.   (New) The method of claim 17, wherein the buffer manager is further in communication with a plurality of control system clients and provides client-requested data to the clients from the remote memory.

21.   (New) The method of claim 20, wherein the plurality of control system clients comprises at least one of a disk subsystem, an error correction code subsystem, and a host interface subsystem.

22.   (New) The method of claim 17, wherein the remote memory comprises a dynamic random access memory (DRAM).

23.   (New) The method of claim 17, wherein filling the cache memory comprises burst filling the cache memory.

24.   (New) A disk drive control system comprising:

a micro-controller;

a remote memory;

a buffer manager in communication with the remote memory; and

a micro-controller cache system in communication with the micro-controller and the buffer manager and having a cache memory, the micro-controller cache system adapted to:

receive a request for data from the micro-controller;

determine whether the data request corresponds to data cached in the cache memory;

determine whether the data request corresponds to an instruction code or non-instruction data; and

if the data request corresponds to an instruction code that is not cached in the cache memory:

fetch the instruction code from the remote memory via the buffer manager,

fill the cache memory with the instruction code, and

provide the cached instruction code to the micro-controller; and

if the data request corresponds to non-instruction data that is not cached in the cache memory:

fetch the non-instruction data from the remote memory via the buffer manager, and

send the non-instruction data uncached from the buffer manager to the micro-controller via the micro-controller cache system.

25.   (New) The disk drive control system of claim 24, wherein the micro-controller cache system is adapted to determine whether the data request corresponds to an instruction code or non-instruction data based on a signal received from the micro-controller.

26.   (New) The disk drive control system of claim 24, wherein the micro-controller cache system is adapted to fetch data from the remote memory by:

sending a micro-controller cache system request to the buffer manager; and

receiving data corresponding to the micro-controller cache system request from the buffer manager.

27. (New) The disk drive control system of claim 24, wherein the buffer manager is further in communication with a plurality of control system clients and provides client-requested data to the clients from the remote memory.

28. (New) The disk drive control system of claim 27, wherein the plurality of control system clients comprises at least one of a disk subsystem, an error correction code subsystem, and a host interface subsystem.

29. (New) The disk drive control system of claim 24, wherein the remote memory comprises a dynamic random access memory (DRAM).

30. (New) The disk drive control system of claim 24, wherein the cache memory is filled with a burst fill.